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TRAINING YOUNG PARENTS TO IDENTIFY AND REPORT THEIR CHILDREN'S ILLNESSES

LAURA E. DELGADO AND JOHN R. LUTZKER
SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

We developed a comprehensive training program to teach young parents what symptoms to look for to judge the severity of their children's illnesses, what to do at home to comfort their children, and when to consult their children's physician or take them for emergency treatment. Three pairs of subjects received training that included written handouts, verbal instructions, modeling, positive practice, and verbal reinforcement. Skill acquisition was assessed by a behavioral test in which parents assessed, treated, or reported a simulated illness in a child. Written materials when used alone did not improve the parent's ability to identify and report children's illnesses. Modeling and role-playing followed by positive practice were successful in teaching these parents skills that were maintained for 3 months without additional training or instruction.

DESCRIPTORS: parents, children, illness, positive practice, multiple probe

Child care can be a stressful experience (Russell, 1974); young parents often have limited skills and many questions about children's care. Thus, educating them in many aspects of child care is very important (Landy, Montgomery, Schubert, Cleland, & Clark, 1983). One of the more difficult issues faced by young parents is caring for a sick child and deciding when the child's symptoms justify a visit to a physician.

Treating a child's illness at home requires a properly stocked medicine chest (Homan, 1979) and knowledge of how and when to treat the child. Among the skills needed for home treatment are the ability to follow treatment regimens and the ability to identify nonprescription medications that may be contraindicated. Although young parents may have been trained in infant care skills such as bathing, temperature taking, and infant stimulation (Dachman, Alessi, Vrazo, Fuqua, & Kerr, 1986; Landy et al., 1983; Lutzker, Lutzker, Braunling-McMorrow, & Eddleman, 1987), few studies have included fathers, and few have focused on treating children's illnesses. Thus, the purpose of this research was to train young parents to assess relevant symptoms to judge the severity of a child's illness, what to do at home to comfort the child, and when to consult the child's physician or take the child for emergency treatment.

METHOD

Subjects

Six young parents were referred to Project 12-Ways, a community-based program for the treatment and prevention of child abuse and neglect (Lutzker, 1984; Lutzker & Newman, 1986; Lutzker & Rice, 1984; Lutzker, Wesch, & Rice, 1984), because of lack of knowledge or skill deficits in infant care or because of infant abuse or neglect. Five of the subjects were female; each had one or more children. Only two of the subjects had completed high school or a general education diploma program. Three of the subjects lived with a spouse or significant other, none of whom wished to participate in this research.

Before baseline, each parent's ability to take a child's temperature and to read a thermometer was

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Reprints are available from John R. Lutzker, University of Judaism, 15600 Mulholland Drive, Los Angeles, California 90077.

tested. All parents had to be taught these skills before the introduction of baseline conditions.

Settings, Trainer, and Observers

All assessment and training took place in the parents' homes. The first author served as the trainer, and three graduate assistants of Project 12-Ways served as reliability observers.

During participation in this study, subjects also received information services that included maternal nutrition, care during pregnancy, anatomy, conception and prenatal development, childbirth preparation, infant feeding and nutrition, physicial care of the infant, infant stimulation, and birth control (Lutzker et al., 1987).

Materials

Written tests. Three versions of true–false tests were used to test the parents' knowledge of general illness identification and treatment. Each test consisted of 10 questions (e.g., "Diaper rash is a common problem, so there is no reason to call the doctor").

Medical supplies and quiz cards. Medical supplies taken to each parent's home during training included a thermometer, petroleum jelly, alcohol, cotton balls, a hot water bottle, an ice bag, liquid pain reliever, and 30 quiz cards. The parents were given a list of supplies to purchase for their own medicine chests, and by the end of the study they all had done so. The quiz cards illustrated symptoms from frequent or serious childhood illnesses, as judged by physicians. An audiocassette, to illustrate symptoms such as coughing or difficulty with breathing, was made to accompany the quiz cards. Whenever there was a symptom that could not be depicted visually on the cards or on the audiotape, a brief description of the symptom was provided on the quiz card (e.g., "your child may feel warm").

Training handouts. A handout containing information on general health care procedures for treating ill children, when to call a child's physician, what to do before calling a physician, and how to take a child's temperature was given to each parent.

Symptom charts. A booklet containing flow charts, with a series of yes/no questions directing the parent toward a possible illness based on the symptoms present, was given to each parent for use throughout the study and was left as a permanent prompt for later reference. It contained 26 of the most common or serious symptoms and was used to help the parents narrow the child's symptoms down to a particular illness.

Illness reference. Also left with each parent was another booklet which contained information on symptoms to identify each illness, instructions for what a parent should do at home to treat the illness, what a physician can do to treat the illness, and danger signals to watch for. It listed 31 of the most common or serious childhood illnesses. This booklet also became a permanent prompt for the parents.

Recording chart. A chart for the parents to track the child's symptoms, temperature, and time of day was another of the permanent prompts left in each home. This was used to record the child's symptoms as recommended in the illness reference, each time symptoms changed, or before administering medication.

All of these permanent prompts were kept by the parents, and their copies were used at all training and testing sessions to ensure that the materials had not been misplaced. For easy access, parents were instructed to keep the Illness Reference and the Symptom Charts in the medicine chest. The Recording Chart was kept by the telephone for reference if it was necessary for the parent to call the child's physician. If the parent did not have a telephone, the Recording Chart was kept with the other permanent prompts.

Procedure

Design. A multiple probe design across cohorts (three pairs of subjects) was used to evaluate the effectiveness of the training package. This design is used when numerous baseline sessions are undesirable because of stability of the behavior, reactivity, or ethical reasons (Horner & Baer, 1978).

Dependent variables. Operational definitions for the following 14 steps were developed:

1. Read Quiz Card, look at pictures on the card, listen to symptom tape, and state all general symptoms of illness present.
2. Record the symptoms present on the Recording Chart.
3. Read the Symptom Chart.
4. Call the physician or seek emergency medical help if recommended by Symptom Chart.
5. Find treatment recommended in the Illness Reference, if treatable at home.
6. Get recommended treatment supplies from medicine chest.
7. Read instructions on package (if drug treatment) or in Illness Reference (if other than drug treatment).
8. Following instructions, administer the treatment(s) to the child (or verbally describe administration).
9. Record the treatment used on the Recording Chart.
10. Observe and state symptoms again, at time recommended in the Illness Reference.
11. Record the symptoms and treatment again (even if the same) on the Recording Chart.
12. At the interval of time recommended in the Illness Reference, check to see if the illness is still present.
13. If illness is still present, call physician or readminister the treatment (as recommended in Illness Reference).
14. If illness is gone, stop treatment unless instructed otherwise by a physician.

The number of steps performed correctly and incorrectly was recorded by the observer. A step was scored correct if the parent performed all of the behaviors in it. If any of the steps were omitted, or if any were performed out of order, they were considered incorrect. Two factors rendered a step "not applicable": the illness dictated that the parent seek medical attention, or the illness required only one administration of medication, thus rendering all of the steps requiring readministration of medication not applicable.

Validation of task analysis. The content validity of the task analysis was established by eight medical professionals (seven physicians and one registered nurse with a Ph.D. in counseling psychology). The medical professionals rated the importance of each of the 14 steps in the task analysis using a five-point Likert scale. They also rated items in the Symptom Chart and Illness Reference as to their appropriateness for inclusion in the training package, based upon the frequency or severity of the illness and symptoms. The Recording Chart was also validated by rating each item as to its appropriateness for inclusion based upon what parents should know and do before calling a physician.

Consumer satisfaction. After the final maintenance probe, all parents were given a questionnaire to rate the degree of improvement in their ability to care for an ill child. The questionnaire was administered by another graduate assistant from Project 12-Ways who was not involved in the study. The parent was not required to put his or her name on the questionnaire.

Observer training; observation procedures; reliability. Three observers were trained to score the dependent variables while watching two confederates perform the steps. Training consisted of a discussion of the dependent variables, repeated observations of confederates displaying both correct and incorrect steps, and feedback and discussion of the trainee's observation. At least once during each condition, a second observer independently scored the parent's performance. Reliability observations occurred for 68% of all observations. Interobserver agreement was calculated by dividing the number of agreements on the scoring of the correctness of each of the 14 steps by the number of agreements plus the number of disagreements and multiplying by 100. Observer reliability ranged from 75% to 100% and averaged 97%.

Behavioral tests. In addition to the written tests, the parents were given behavioral tests to assess their ability to identify and report children's illnesses. During the behavioral test, the parent chose a Quiz Card, read the card and listened to the audiocassette, if necessary. From these descriptions, the parent demonstrated what he or she would do if his or her child had the symptoms that were

described. For this demonstration the parent used his or her child, if available, or a doll if the child was unavailable. The doll was used for all demonstrations requiring administration of medication.

This test was used for all sessions to evaluate the parent's progress. At each subsequent session, the Quiz Cards that had been previously used by the parent were removed from the selection to reduce the effects of repeated testing. No feedback, prompts, or reinforcers were provided.

Self-report generalization data. Some self-report data were obtained when the parents' own children were ill. Each parent was asked what he or she had noticed about the child, what was done, and how the child reacted. These self-reports were scored by the experimenters according to the 14-step task analysis.

Experimental Conditions

Pretest. Basic skills were assessed using one of the written tests and a behavioral test. Only one written and one behavioral pretest were administered to the first parent in each cohort because of the type of design used. The second parent in each cohort received two behavioral pretests.

Written material. After the pretests, the parents were given the Training Handout and were instructed to read it. At the following session, the handout was discussed if the parent had read it; otherwise the trainer requested that the parent read and discuss the handout during the session. Following the discussion, a written posttest was given if the parent scored less than 80% on the written pretest. Each parent then completed a behavioral test. Parents were given no corrective feedback regarding the accuracy of performance on the behavioral test during this condition.

Modeling and role-playing. During this condition, a verbal description of the behavior to be learned was provided by describing each of the 14 steps of the task analysis in easily understandable words. Rationale was given for each step; it was then modeled. The parent then role-played and received feedback. Each parent was required to correctly use the Symptom Charts three times and the Recording Chart for one trial (one examination by the counselor). They were also required to correctly select, administer (or verbally describe how to administer), and record treatment for three successful trials. Once these criteria were met, the behavioral test was given. At the end of this condition, parents were given the Illness Reference, the Symptom Charts, and the Recording Chart and were instructed to become familiar with the materials and to practice using them.

Positive practice. During this condition, parents practiced only the steps they had performed incorrectly on the previous behavioral test. Each parent was required to complete the incorrect steps three times correctly, after which the behavioral test was given. As soon as they had completed 80% or more of the steps correctly on three consecutive behavioral tests, the maintenance condition was introduced.

Maintenance. Once per month for three months after the parent met criterion, maintenance was probed using the behavioral tests previously described; novel Quiz Cards were used. If performance fell below 80% on any of the maintenance probes, positive practice retraining occurred.

RESULTS

Written Test Results

Because the others scored 100% on their pretests, only Penny and Tammy required posttests on which they also scored 100%.

Behavioral Test Results

Cohort 1. During the behavioral pretests neither Penny nor Nancy (Figure 1) performed more than 10% of the steps correctly. Despite two opportunities to read the Training Handout, both subjects showed only minor improvements during the written materials condition. During the modeling/role-playing condition, the performance of both parents improved dramatically but did not meet criterion. Both parents reached criterion during the positive practice condition. Penny's skills then were maintained at 100% during all three maintenance probes. Nancy required additional positive practice training after the first maintenance probe, after which her skills were maintained at criterion for the final two probes.

Cohort 2. Both Tammy and Pam (Figure 2)

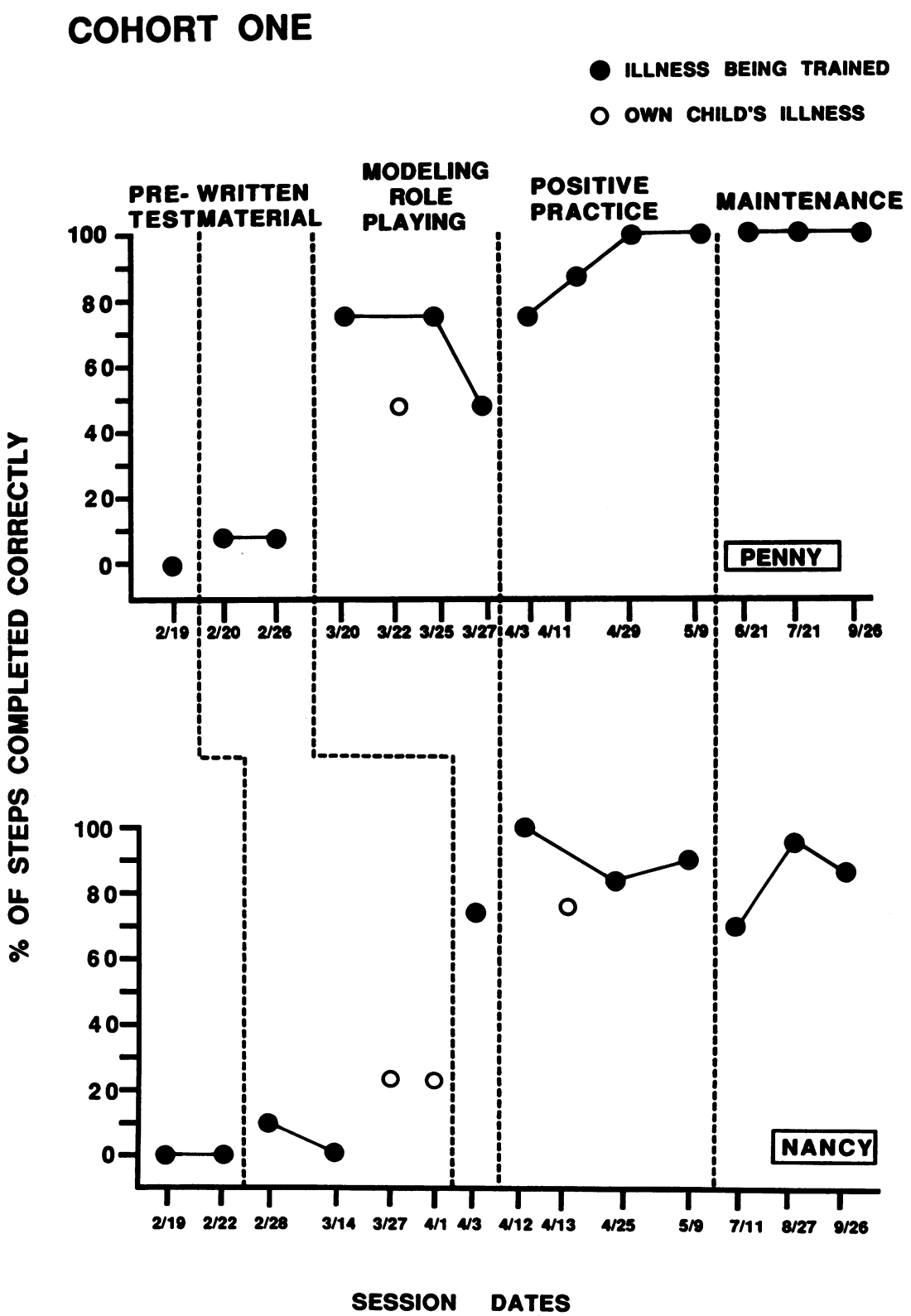

Figure 1. Behavioral test results for Cohort 1.

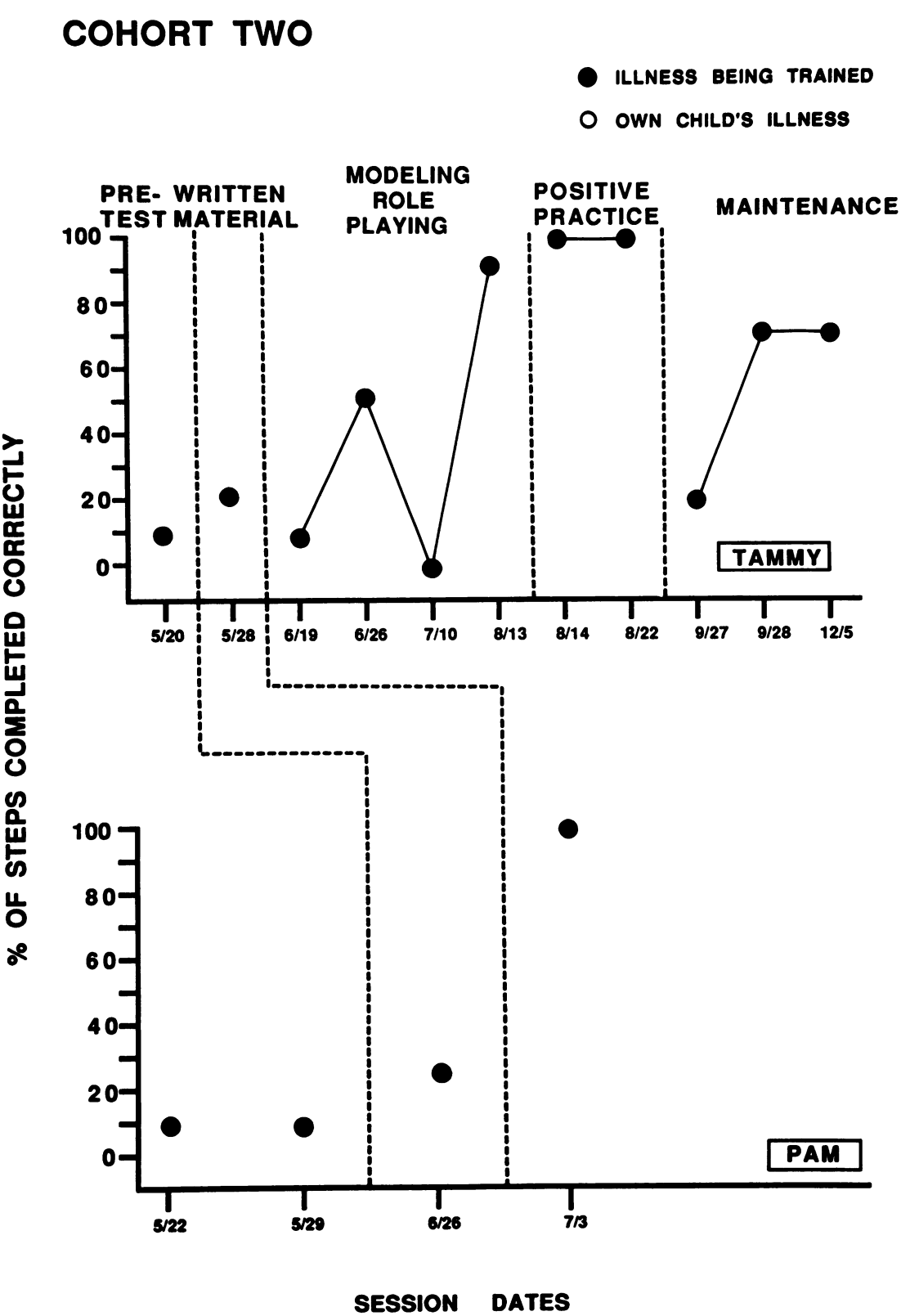

Figure 2. Behavioral test results for Cohort 2.

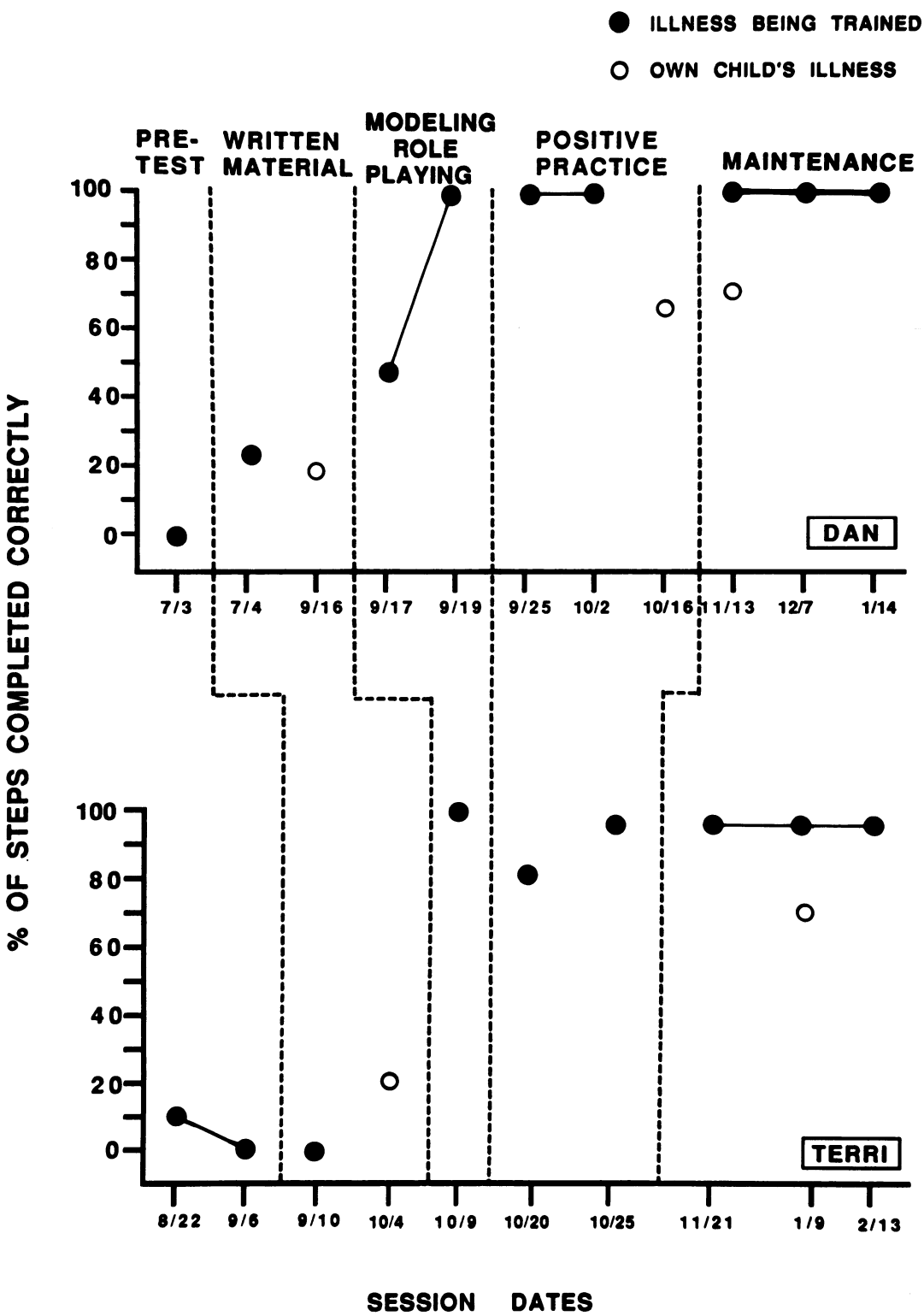

Figure 3. Behavioral test results for Cohort 3.

showed low levels of performance on the pretest; their performance improved only slightly with the introduction of the Training Handout. During the modeling/role-playing condition both mothers showed substantial improvement, although Tammy's performance was sporadic and Pam's data are incomplete because she moved out of state before more data could be collected. The introduction of the positive practice condition produced further improvements for Tammy. Her performance levels declined during the maintenance phase.

Cohort 3. After low baseline performance for Dan and Terri (Figure 3), presentation of the Training Handout produced only modest improvements. However, they showed quick acquisition of the skills during the modeling/role-playing and positive practice conditions. Both parents maintained their skills at 100% on all three maintenance probes, thus requiring no additional sessions.

Self-report generalization data. During the study, illness occurred for the children of Penny, Nancy, Dan, and Terri. Based on the parents' descriptions of their care for their children, it seems that each parent showed improvement over the course of the study in the application of these skills to their own children. The validity of these self-reports is partially supported by Dan's physician, who reported that Dan had acted correctly when his child was ill during the maintenance condition, thus avoiding hospitalization.

Consumer satisfaction. The parents rated the program highly and recommended it for other parents. They stated they had learned to identify illness, seek medical attention when needed, and identify things to do at home for an ill child. Parents rated keeping the booklets as the best part of the program. The parents considered using the dolls for some of the trials to be their least favorite part of the program. Overall, the results were positive; the parents felt they had greatly improved their ability to care for ill children.

DISCUSSION

Modeling and role-playing, with positive practice, were effective in increasing the performance of six young parents on a 14-step behavioral and written task analysis for caring for their ill children. Only three to seven training sessions were necessary to produce criterion-level (simulated) skills and reasonable maintenance of skills by these parents. The parents' self-reports of their performance when their children were ill were also promising.

The written materials alone were not sufficient to enable parents to identify, treat, and report children's illnesses. This is at least partially due to their poor reading ability; however, once parents had acquired the skills, they effectively used written materials in subsequent behavioral tests and, according to their self-reports, with their own children.

Because of the sequence of interventions used for all subjects in this research, it is impossible to predict with any certainty the likely effects of the role-play condition or the positive practice condition if presented alone. Given the parents' boredom with repeatedly role-playing the entire task analysis, the positive practice condition was relevant in two ways: parents preferred it, and it seems to have facilitated their performance; however, additional research is required to resolve the sequence effect confound present in this study. Furthermore, the intervention phases involved a package of variables, any one of which could have accounted for the results. This suggests a need for component analysis research to identify variables within the treatment package that may be the most salient and thus responsible for changes.

This research and its limitations suggest further avenues of inquiry. For example, the training package is fairly cumbersome. Training involving less teacher-counselor time, perhaps using videotapes or slide/tape programs, might be more efficient. Longer follow-up measures would be of particular interest. Of additional interest would be samples of parents from different settings such as those who voluntarily enroll in hospital-based prenatal classes. Thus, this study serves as a model for a variety of prenatal training programs that could be tested in clinics and homes. The refinements that we have suggested can expand this area of research.

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